10 646 942

CofC

O↑P-E IAPSS
DEC 15 2009
PATENT & TRADEMARK OFFICE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re U.S. Patent No.: 7,610,168   )
)
Inventors: Yasuo Isumi et al.   )
)
Issue Date.: October 27, 2009   )   **Certificate**
)
For: PASS/FIAL JUDGMENT DEVICE,   )   DEC 1 7 2009
       PASS/FAIL JUDGMENT PROGRAM,   )
       PASS/FAIL JUDGMENT METHOD,   )   **of Correction**
       AND MULTIVARIATE STATISTICS   )
       ANALYZER   .   )

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

REQUEST FOR CERTIFICATE OF CORRECTION

Pursuant to 35 U.S.C. § 254, and 37 C.F.R. § 1.322, this is a request for a Certificate of Correction in the above-identified patent. The mistakes identified in the appended Form occurred through the fault of the Patent Office, as clearly disclosed by the records of the application which matured into this patent.

The complete Certificate of Correction involves three (3) pages. Issuance of the Certificate of Correction containing the correction is earnestly requested.

Please charge any required fees not included herewith to Deposit Account 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

Dated: December 15, 2009   By: /Anthony M. Gutowski/
                                         Anthony M. Gutowski
                                         Reg. No. 38,742
                                         571-203-2774

PATENT NO.   7,610,168   Page 1 of 3

APPLICATION NO.:   10/646,942

ISSUE DATE: October 27, 2009

INVENTOR(S):   Yasuo Isumi and Kou Hirano

It is hereby certified that an error or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On the front face of the patent at item (73) Assignees:, the name "Kabsuhki" should read --Kabushiki--;

At column 41, line 65 through column 44, line 26, delete claims 37 and 38 and insert in place thereof the following claims 37 and 38:

37.   A computer-implemented quality control apparatus used to detect a defective unit in a product inspection, comprising:

a detector configured to detect physical characteristics of an object and generate object data representing the detected physical characteristics of the object;

a statistical parameter computing unit configured to compute a center of distribution and distribution parameters that vary in accordance with a breadth of distribution for variables with respect to either or both of a non-defective object probability representing a probability that one or more objects should be classified in a non-defective category based on the object data generated by the detector, compute a defective object probability representing a probability that one or more objects should be classified in a defective category based on the object data generated by the detector, classify the one or more objects as being in the non-defective category based on a match between a first pattern of object data and the computed non-defective object probability, and classify the one or more objects as being in the defective category based on a match between a second pattern of object data and the computed defective object probability;

an input unit configured to receive a rate of flowout in the defective category, which represents a number of objects that are actually in the defective category by the statistical computing unit, and that are judged as being non-defective, and a rate of overcontrol in the non-defective category, which represents a number of objects that are

MAILING ADDRESS OF SENDER

actually in the non-defective category by the statistical computing unit, and that are judged as being defective, the received rate of flowout and the received rate of overcontrol including a visual observation by an operator of an actual orientation of one component of the object relative to another component of the object;

a calculation unit configured to calculate a discriminate function to discriminate between defective and non-defective objects based on the non-defective category and defective object probability distributions computed by the statistical computing unit and based on the feedback data received by the input unit, the discriminate function being different from a midpoint between a mean value of the first probability distribution and a mean value of the second probability distribution wherein frequency distributions of the non-defective category and the defective category has a shape of a normal distribution;

a judging unit configured to determine whether the one or more objects should be classified in one of the defective or non-defective categories based on the discriminate function calculated by the calculation unit; and

a display unit configured to display whether the one or more objects are classified in one of the defective or non-defective categories based on the determination of the judging unit;

wherein the rate of overcontrol and the rate of flowout are separated having the normal distribution; and

wherein the overcontrol and flowout are judged based on the data of the normal distribution.

38.   A computer-implemented quality control method taking the form of pass/fail objects as a pass/fail judgment factor, and used to detect a defective unit in product inspection, comprising:

detecting physical characteristics of an object;

generating object data representing the detected physical characteristics of the object;

computing with a microprocessor a non-defective object probability distribution representing a probability that one or more objects should be classified in a non-defective category based on the generated object data;

computing with the microprocessor a defective object probability distribution representing a probability that one or more objects should be classified in a defective category based on the generated object data;

classifying the one or more objects as being in the non-defective category based on a match between a first pattern of object data and the computed non-defective object probability distribution;

classifying the one or more objects as being in the defective category based on a match between a second pattern of object data and the computed defective object probability distribution;

receiving an rate of flowout in the defective category, which represents a number of objects that are actually in the defective category, and that are judged as being non-defective, the received rate of flowout including a visual observation by an operator of an actual orientation of one component of the object relative to another component of the object;

receiving a rate of overcontrol in the non-defective category, which represents a number of objects that are actually in the non-defective category, and that are actually in the defective category, the received rate of overcontrol including a visual observation by an operator of an actual orientation of one component of the object relative to another component of the object;

calculating a discriminate function to discriminate between one or more objects classified in the non-defective category from one or more objects classified in the defective category based on at least one of the received rate of flowout and the received rate of overcontrol and based on the computed non-defective and defective object probability distributions, the discriminate function being different from a midpoint between a mean value of the computed non-defective object probability distribution and a mean value of the computed defective object probability distribution wherein frequency distributions of the non-defective category and the defective category has a shape of a normal distribution;

determining whether one or more objects should be classified in one of the defective or non-defective categories based on the calculated discriminate function; and

displaying an image that illustrates whether the one or more objects are classified in one of the defective or non-defective categories based on the determining step;

wherein the rate of overcontrol and the rate of flowout are separated having normal distribution; and

wherein the overcontrol and flowout are judged based on the data of normal distribution.

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO.   7,610,168   Page 1 of 3

APPLICATION NO.:   10/646,942

ISSUE DATE: October 27, 2009

INVENTOR(S):   Yasuo Isumi and Kou Hirano

It is hereby certified that an error or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On the front face of the patent at item (73) Assignees:, the name "Kabsuhki" should read --Kabushiki--;

At column 41, line 65 through column 44, line 26, delete claims 37 and 38 and insert in place thereof the following claims 37 and 38:

37.   A computer-implemented quality control apparatus used to detect a defective unit in a product inspection, comprising:

a detector configured to detect physical characteristics of an object and generate object data representing the detected physical characteristics of the object;

a statistical parameter computing unit configured to compute a center of distribution and distribution parameters that vary in accordance with a breadth of distribution for variables with respect to either or both of a non-defective object probability representing a probability that one or more objects should be classified in a non-defective category based on the object data generated by the detector, compute a defective object probability representing a probability that one or more objects should be classified in a defective category based on the object data generated by the detector, classify the one or more objects as being in the non-defective category based on a match between a first pattern of object data and the computed non-defective object probability, and classify the one or more objects as being in the defective category based on a match between a second pattern of object data and the computed defective object probability;

an input unit configured to receive a rate of flowout in the defective category, which represents a number of objects that are actually in the defective category by the statistical computing unit, and that are judged as being non-defective, and a rate of overcontrol in the non-defective category, which represents a number of objects that are

actually in the non-defective category by the statistical computing unit, and that are judged as being defective, the received rate of flowout and the received rate of overcontrol including a visual observation by an operator of an actual orientation of one component of the object relative to another component of the object;

a calculation unit configured to calculate a discriminate function to discriminate between defective and non-defective objects based on the non-defective category and defective object probability distributions computed by the statistical computing unit and based on the feedback data received by the input unit, the discriminate function being different from a midpoint between a mean value of the first probability distribution and a mean value of the second probability distribution wherein frequency distributions of the non-defective category and the defective category has a shape of a normal distribution;

a judging unit configured to determine whether the one or more objects should be classified in one of the defective or non-defective categories based on the discriminate function calculated by the calculation unit; and

a display unit configured to display whether the one or more objects are classified in one of the defective or non-defective categories based on the determination of the judging unit;

wherein the rate of overcontrol and the rate of flowout are separated having the normal distribution; and

wherein the overcontrol and flowout are judged based on the data of the normal distribution.

38.   A computer-implemented quality control method taking the form of pass/fail objects as a pass/fail judgment factor, and used to detect a defective unit in product inspection, comprising:

detecting physical characteristics of an object;

generating object data representing the detected physical characteristics of the object;

computing with a microprocessor a non-defective object probability distribution representing a probability that one or more objects should be classified in a non-defective category based on the generated object data;

computing with the microprocessor a defective object probability distribution representing a probability that one or more objects should be classified in a defective category based on the generated object data;

classifying the one or more objects as being in the non-defective category based on a match between a first pattern of object data and the computed non-defective object probability distribution;

classifying the one or more objects as being in the defective category based on a match between a second pattern of object data and the computed defective object probability distribution;

receiving an rate of flowout in the defective category, which represents a number of objects that are actually in the defective category, and that are judged as being non-defective, the received rate of flowout including a visual observation by an operator of an actual orientation of one component of the object relative to another component of the object;

receiving a rate of overcontrol in the non-defective category, which represents a number of objects that are actually in the non-defective category, and that are actually in the defective category, the received rate of overcontrol including a visual observation by an operator of an actual orientation of one component of the object relative to another component of the object;

calculating a discriminate function to discriminate between one or more objects classified in the non-defective category from one or more objects classified in the defective category based on at least one of the received rate of flowout and the received rate of overcontrol and based on the computed non-defective and defective object probability distributions, the discriminate function being different from a midpoint between a mean value of the computed non-defective object probability distribution and a mean value of the computed defective object probability distribution wherein frequency distributions of the non-defective category and the defective category has a shape of a normal distribution;

determining whether one or more objects should be classified in one of the defective or non-defective categories based on the calculated discriminate function; and

displaying an image that illustrates whether the one or more objects are classified in one of the defective or non-defective categories based on the determining step;

wherein the rate of overcontrol and the rate of flowout are separated having normal distribution; and

wherein the overcontrol and flowout are judged based on the data of normal distribution.

MAILING ADDRESS OF SENDER

Finnegan, Henderson, Farabow,
Garrett & Dunner, L.L.P.
901 New York Avenue, N.W.
Washington, D.C. 20001-4413